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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,146	06/24/2002	Klaus Winter	10191/2063	9486

7590 03/24/2006  
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EXAMINER

PIERRE LOUIS, ANDRE

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/980,146

Applicant(s)

WINTER ET AL.

Examiner

Andre Pierre-Louis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1.0 The amendment filed on 12/22/2005 has been received and fully considered, and claims 6-10 are presented for examination.

2.0 The objection to the drawing has been withdrawn by the examiner; however, there remains to be an issue with figure 2 of the drawings. The referred figure contains hand written label, which the examiner requests be corrected if this case becomes allowable.

3.0 With regards to priority documents, the examiner acknowledges that the priority documents have been received.

4.0 As per the IDS, the IDS filed on 11/28/2001 has been received and fully considered.

5.0 During examination of the amendment filed on 12/22/2005, the examiner noticed that the first office action completed shows art rejection of claims 6 and 9 under 35 U.S.C. 102(a). However, the examiner's intention was to make a 102(b) and 102(e) rejection respectively, as the prior arts clearly show. It was an oversight on the examiner's part and the claims are now rejected under 35 U.S.C. 102(b) and 102(e), respectively, as set forth below.

**Response to Arguments**

6.0 Applicant's arguments filed 12/22/2005 have been fully considered but they are not persuasive.

6.1 Applicant argues that Kissel, Jr. does not teach a frequency distribution of literal displacement; examiner respectfully disagrees and points to col.25 line 6-col.26

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line 64 where radio frequencies are transmitted and received to track or detect the position and speed of the other vehicle, during the lane assignment process, as they move from one place to another. The applicant is further directed to Kissel, Jr.'s figures & their description.

6.2 Applicant argues that Kissel, Jr. does not teach allocation to lane to consecutive vehicles, examiner respectfully disagrees and further points to col.25 line 6-col.26 line 64 and also abstract where transfer of vehicle from one lane to another and further directed to col.7 line 40-col.12 line 2.

6.3 Applicant argues that Winner does not teach determine a horizontal misalignment from a position of average values for lane in a histogram with respect to a vehicle axis, examiner respectfully disagrees and points to the title, abstract, col.1 line8-col.2 line 47. Winner refers to any misalignment of either a part or the entire clearance sensor, which would, includes vertical and horizontal col. lines 8-16. The applicant is further directed to Winner's figures and their description.

6.4 Applicant argues that the combined teachings of Kissel, Jr. and Sato et al. does not teach the features of claim 7; examiner respectfully disagrees and points to Kissel, Jr. col.25 line 6-col.26 line 64 and also abstract where transfer of vehicle from one lane to another and further directed to col.7 line 40-col.12 line 2 and that radio frequencies are transmitted and received to track or detect the position and speed of the other vehicle, during the lane assignment process, as they laterally move from one place to another; also see Sato et al. col.8 line 55-col.9 line 29 and col.3 line 21-col.4

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line 63. The applicant is further directed to the combined references' figures & their description.

6.5 Applicant argues that Sato et al. does not teach a histogram for a distance of detected object and that Winner does teach sensor misalignment, examiner respectfully disagrees and points to Sato et al. col.16 line 54-col.24 line 67; Winner title, abstract, col.1 line8-col.2 line 47. Winner refers to any misalignment of either a part or the entire clearance sensor col.1 lines 8-16. The applicant is further directed to the combined references' figures and their description.

6.6 While the applicant believes that the independent claims along with the dependent claims should be found allowable, the examiner respectfully disagrees and asserts that the cited references teach the entire claimed invention.

**Claim Rejections - 35 USC § 102**

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7.0 Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Kissel, Jr. (U.S. Patent No.5, 063,857).

7.1 With regards to claim 6, Kissel, Jr. teaches the functional equivalence of a method for lane allocation of consecutive vehicle on a multi-lane roads, and particularly teaches the step of:

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carrying out the lane allocation in a model-based manner via a frequency distribution of lateral displacement of detected radar objects (see col.25 lines 25-56).

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8.0 Claim 9 is rejected under 35 U.S.C. 102(e) as being anticipated by Winner (U.S. Patent No. 6,026,353).

8.1 Regarding claim 9, Winner discloses a method for detecting a misalignment of a sensor on the basis of reflection, and particularly teaches the steps of:

- detecting a horizontal misalignment from a position of average values for lanes in a histogram with respect to the a vehicle axis (see abstract).

Although the abstract merely teaches a vertical misalignment, Winner also defines the term "misalignment" to be any misalignment of any part of the sensor (col.1 lines10-13), and that a horizontal misalignment can also be detected (col.2 lines 4-6).

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kissel, Jr. (U.S. Patent No. 5,063,857), as applied to claim 6 above, in view of Sato et al. (U.S. Patent No. 5,555,555).

9.1. With regards to claim 7, Kissel, Jr. substantially teaches a device with:

- means for carrying out a lane allocation in a model-based manner via a frequency distribution of lateral displacements of detected radar objects (col. 25 lines 25-56); however, he does not expressly teach the means for correlating a determined frequency distribution with one of (a) stored models for frequency distributions of lateral displacements, relating to lane allocation for multi-lane roads having a define width and (b) characteristic lateral displacement histograms for different lanes used by succeeding vehicle. But, Sato et al. teaches a device with means for correlating a determined frequency distribution with one of (a) stored models for frequency distributions of lateral displacements, relating to lane allocation for multi-lane roads having a define width and (b) characteristic lateral displacement histograms for different lanes used by succeeding vehicle (*see Sato et al. col.8 line 55 through col.9 line 29*). It would have been obvious to one ordinary skilled of the art at the time of the applicant's invention to modify Kissel, Jr.'s device by adding the means for correlating a determined frequency distribution with the stored models for same to

allow user of the device to store and compare data relating to lane allocation. He also teaches the calculation of vehicle's width to provide a weighted mean value, which is then stored in a mean for storing (see *Sato et al. fig. 46 col.29 lines 36-52*).

9.2. As per claim 8, the combined teachings of Kissel, Jr. and Sato et al. teach the means for outputting a model part having a highest correlation to the determined frequency distribution as a lane hypothesis, the lane hypothesis including a number of lanes and a lane used by one's own vehicle (see *Sato et al. fig.3 col.8 lines 32-55*).

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (U.S. Patent No. 5,555,555), in view of Winner (U.S. Patent No. 6,026,353).

10.1 With regards to claim 10, Sato et al. teaches a device with:

- means for storing, with equivalent object treatment, a first histogram for a lateral displacement of a detected object (*col.16 line 58 through col.17 line 18*) and a second histogram for a distance of a detected object (*col.18 line 52 through col.19 line 7*); however, he does not teach the means for determining a misalignment angle of a sensor by determining a centroid of the first and second histogram. But, Winner teaches the means for determining a misalignment angle of a sensor by determining a centroid of the first and second histogram (see *Winner figs. 2&3 col.3 lines 16-30*).

Thus, it would have obvious for one ordinary skilled of the art at the time of the applicant's invention to modify Sato et al. device by adding the means



for determining the misalignment angle of the sensor to properly correct the misalignment. He also teaches the advantage of being able to recognize in which direction the misalignment is (see *Winner col.2 lines 29-36*).

**Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11.1 Nier et al. (U.S. Patent No. 4,063,237) teaches a distance measuring system, particularly for spacing of moving vehicles.

11.2 Winner et al. (U.S. Patent No. 5,999,874) teaches a method and apparatus for controlling the velocity of a vehicle.

11.3 Winner et al. (U.S. Patent No. 6,653,935) teaches a method for evaluating objects in the path of a vehicle.

11.4 Satoh et al. (U.S. Patent No. 6,489,887) teaches a lane-keep assisting system for vehicle.

12. Claims 1-5 have been canceled and claims 6-10 are rejected and **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Pierre-Louis whose telephone number is 571-272-8636. The examiner can normally be reached on Mon-Fri, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 16, 2006

APL

  
Paul L. Rodriguez 3/20/06  
Signature Primary Examiner  
Art Unit 21252122